

11/12. (Twice Amended) A process which comprises:

- 1) mixing together at least one of each of the following: (a) a 4,5-benzoindanone, (b) an alkali or alkaline earth metal borohydride or alkali or alkaline earth metal aluminum hydride, (c) a hydroxyl-containing compound capable of interacting with (b) to serve as a hydrogen source, and (d) at least one ether;
- 2) maintaining the resultant mixture under reaction conditions causing a 4,5-benzoindanol to be formed;
- 3) terminating the reaction by quenching the reaction mixture with water or an aqueous mixture;
- 4) extracting the quenched reaction mixture with a liquid hydrocarbon having a higher boiling point or a higher initial boiling point than the ether;
- 5) distilling [at least the ether from] the resultant extract to leave a liquid hydrocarbon solution of the 4,5-benzoindanol; and
- 6) catalytically dehydrating said 4,5-benzoindanol using an arylsulfonic acid catalyst to thereby form a 4,5-benzoindene.

18/21. (Twice Amended) A process which comprises:

- 1) mixing together at least one of each of the following: (a) a 4,5-benzoindanone, (b) an alkali or alkaline earth metal borohydride or alkali or alkaline earth metal aluminum hydride, (c) a hydroxyl-containing compound capable of interacting with (b) to serve as a hydrogen source, and (d) at least one ether;
- 2) maintaining the resultant mixture under reaction conditions causing a 4,5-benzoindanol to be formed;
- 3) terminating the reaction by quenching the reaction mixture with water or an aqueous mixture;
- 4) extracting the quenched reaction mixture with a liquid hydrocarbon having a higher boiling point or a higher initial boiling point than the ether;
- 5) distilling [at least the ether from] the resultant extract to leave a liquid hydrocarbon solution of the 4,5-benzoindanol;
- 6) catalytically dehydrating said 4,5-benzoindanol using an arylsulfonic acid catalyst to thereby form a 4,5-benzoindene; and

3. *united*
- 7) deprotonating said 4,5-benzoindene with a strong base and reacting the resultant deprotonated intermediate with a reactant which in its original condition can be depicted by the formula $R^{11}R^{12}M^1X_2$ where R^{11} and R^{12} are the same or different and each is (i) a hydrocarbyl group containing up to about 18 carbon atoms or (ii) a hydrocarbyl(oxyalkylene) or hydrocarbylpoly(oxyalkylene) group containing up to about 100 carbon atoms; M^1 is a silicon, germanium or tin atom; and X is a halogen atom; such that a silicon-, germanium- or tin-bridged complex of the 4,5-benzoindene is formed.
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2.631 31. (Twice Amended) A process which comprises:

- 3.4*
- 1) mixing together at least one of each of the following: (a) a 4,5-benzoindanone, (b) an alkali or alkaline earth metal borohydride or alkali or alkaline earth metal aluminum hydride, (c) a hydroxyl-containing compound capable of interacting with (b) to serve as a hydrogen source, and (d) at least one ether;
 - 2) maintaining the resultant mixture under reaction conditions causing a 4,5-benzoindanol to be formed;
 - 3) terminating the reaction by quenching the reaction mixture with water or an aqueous mixture;
 - 4) extracting the quenched reaction mixture with a liquid hydrocarbon having a higher boiling point or a higher initial boiling point than the ether;
 - 5) distilling [at least the ether from] the resultant extract to leave a liquid hydrocarbon solution of the 4,5-benzoindanol;
 - 6) catalytically dehydrating said 4,5-benzoindanol using an arylsulfonic acid catalyst to thereby form a 4,5-benzoindene;
 - 7) deprotonating said 4,5-benzoindene with a strong base and reacting the resultant deprotonated intermediate with a reactant which in its original condition can be depicted by the formula $R^{11}R^{12}M^1X_2$ where R^{11} and R^{12} are the same or different and each is (i) a hydrocarbyl group containing up to about 18 carbon atoms or (ii) a hydrocarbyl(oxyalkylene) or hydrocarbylpoly(oxyalkylene) group containing up to about 100 carbon atoms; M^1 is a silicon, germanium or tin atom; and X is a halogen atom; such that a silicon-, germanium- or tin-bridged complex of the 4,5-benzoindene is

formed; and

- 8) deprotonating said bridged complex with a strong base and reacting the resultant deprotonated intermediate with a Group IV, V, or VI metal tetrahalide to thereby form a silicon-, germanium- or tin-bridged Group IV, V, or VI metal-containing metallocene complex.

3946. (Twice Amended) A process which comprises:

- 1) mixing together at least one of each of the following: (a) a 4,5-benzoindanone, (b) an alkali or alkaline earth metal borohydride or alkali or alkaline earth metal aluminum hydride, and (c) a hydroxyl-containing compound selected from the group consisting of water, an alcohol, and a mixture thereof capable of interacting with (b) to serve as a hydrogen source, under reaction conditions causing a 4,5-benzoindanol to be formed;
- 2) terminating the reaction by quenching the reaction mixture with water or an aqueous mixture;
- 3) extracting the quenched reaction mixture with a liquid hydrocarbon;
- 4) distilling the resultant extract to leave a liquid hydrocarbon solution of the 4,5-benzoindanol;
- 5) [2] catalytically dehydrating said 4,5-benzoindanol using a arylsulfonic acid catalyst to thereby form a 4,5-benzoindene;
- 6) [3] deprotonating said 4,5-benzoindene with a strong base and reacting the resultant deprotonated intermediate with a reactant which in its original condition can be depicted by the formula $R^{11}R^{12}M^1X_2$ where R^{11} and R^{12} are the same or different and each is (i) a hydrocarbyl group containing up to about 18 carbon atoms or (ii) a hydrocarbyl(oxyalkylene) or hydrocarbylpoly(oxyalkylene) group containing up to about 100 carbon atoms; M^1 is a silicon, germanium or tin atom; and X is a halogen atom; such that a silicon-, germanium- or tin-bridged complex of the 4,5-benzoindene is formed;
- 7) [4] deprotonating said bridged complex with a strong base and reacting the resultant deprotonated intermediate with a Group IV, V, or VI metal tetrahalide to thereby form solids comprising a silicon-, germanium- or tin-bridged Group IV, V, or